

Appendix J:

PASCO Model SF-9500 Student Galvanometer:

Purpose:

The PASCO Model SF-9500 Student Galvanometer, hereafter denoted the “galvanometer”, provides a means of measuring the magnitude and direction of current flowing through a circuit.

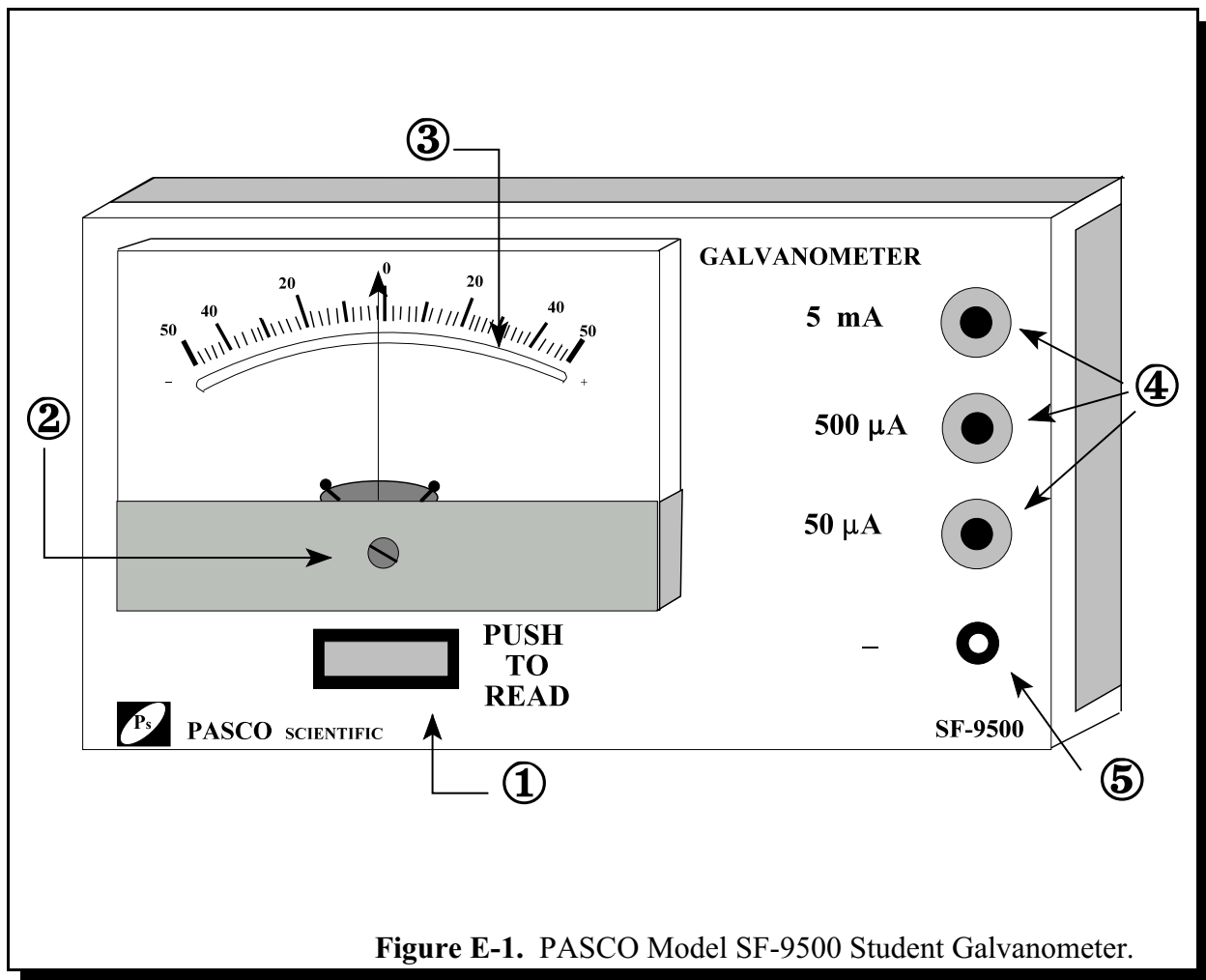


Figure E-1. PASCO Model SF-9500 Student Galvanometer.

Controls:

1. **PUSH TO READ button:** This button must be pushed during the time that the measurement is being made; the galvanometer will not pass current unless this button is depressed (this protects the sensitive circuitry inside the device).
2. **Zero adjust screw:** This screw mechanically aligns the meter needle with

the zero on the meter scale.

3. Mirror scale: This scale is used to eliminate parallax errors.
4. 5 mA, 500 μ A, and 50 μ A input jacks.
5. Common (return) jack.

Operating Notes:

1. Connect the circuit between the negative terminal (black connector) of the galvanometer and the red input connector; the user should first use the greater current (5 mA) connection to prevent excess (i.e., off-scale) current from entering the galvanometer.
2. Press the PUSH TO READ button, and hold it down while you read the current. If no deflection is observed, move the red input connector to the next higher current sensitivity setting. Press the PUSH TO READ button again and read the current. If still no deflection is observed move the red input connector to the most sensitive current setting. If no deflection is observed then, check your circuit for other problems (power off, open circuit, etc.).
3. To avoid parallax errors, line up the meter needle with its reflection in the mirror scale.
4. The current ranges displayed beside the input connectors refer to the current value that will give a full scale meter deflection.

Example: A reading of +40 in the 5 mA range indicates a current of 4 mA.

$$\frac{5 \text{ mA}}{+50 \text{ mA}} = \frac{x \text{ mA}}{40 \text{ mA}}$$
$$x = \frac{(40 \text{ mA})(5 \text{ mA})}{50 \text{ mA}}$$
$$x = 4 \text{ mA}$$